AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (previously submitted) An immunogenic composition comprising :

(a) a polynucleotide that comprises a sequence encoding an HIV gp120 envelope protein operably linked to a heterologous promoter, wherein the gp120 encoding sequence is linked to a sequence encoding HIV RT and a sequence encoding HIV Gag and a sequence encoding HIV Nef, such that said polynucleotide encodes a fusion protein containing gp120, RT, Gag and Nef , containing fusion protein and wherein the encoded HIV gp120 envelope protein lacks a functional secretion signal and is substantially non-glycosylated when expressed in a mammalian target cell, and

(b) at least one pharmaceutically acceptable exipient, diluent, or carrier.

2-6. canceled

7. (currently amended) The immunogenic composition of claim 1, wherein the ~~polypeptide~~ polynucleotide encodes a fusion protein selected from the group consisting of:

a fusion protein comprising in the 5' to 3' direction: gp120-RT-Nef-Gag, and

a fusion protein comprising in the 5' to 3' direction: RT-Nef-Gag-gp120.

8 - 11. canceled.

12. (previously submitted) The immunogenic composition of claim 1, wherein the polynucleotide encodes HIV Gag comprising one or both of P17 and P24.

13. (previously presented) The immunogenic composition of claim 1, wherein at least one of the sequences encoding gp120, Nef, Gag, and RT is codon optimised to resemble codon usage in a highly expressed human gene.

14. (previously presented) An immunogenic composition comprising :

(a) a nucleic acid molecule encoding a fusion protein comprising in the 5' to 3' direction gp120 – RT – Nef – Gag;

wherein the nucleic acid sequences encoding gp120, RT and Gag are codon optimized,

wherein the encoded gp120 lacks a functional secretion signal;

wherein the encoded RT comprises a mutation that substantially inactivates reverse transcriptase activity;

wherein the encoded Nef is a truncated Nef lacking N-terminal amino acids 1-65;

wherein the encoded Gag comprises p17 and p24;

and

(b) at least one pharmaceutically acceptable excipient, diluent, or arrier.

15. (previously presented) The immunogenic composition of claim 1, wherein the promoter is from an HCMV IE gene.

16. (previously presented) The immunogenic composition of claim 15, wherein a 5' untranslated region comprising exon 1 of the HCMV IE gene is between the promoter and the coding sequences.

17. (previously presented) An immunogenic composition according to claim 1, further comprising a polynucleotide encoding Tat.

18. (previously presented) The immunogenic composition of claim 17, wherein the polynucleotide encoding the fusion protein and the polynucleotide encoding Tat_ polynucleotides are contained on a single vector and are_under the control of a single promoter.

19. – 20. canceled.

21. (previously presented) The immunogenic composition of claim 1, wherein the polynucleotide sequence encoding the fusion protein is in a vector.

22. (previously presented) The immunogenic composition of claim 21, wherein the vector is a double stranded DNA plasmid.

23. (previously presented) The immunogenic composition of claim 21, wherein the vector is a replication defective adenovirus vector.

24. (previously presented) The immunogenic composition of claim 23, wherein the replication defective vector is selected from the group consisting of: Pan 9, Pan 5, Pan 6 and Pan_7.

25. – 27. Canceled

28. (previously presented) The immunogenic composition of claim 1, further comprising an adjuvant.

29. (previously presented) The immunogenic composition of claim 1 comprising a carrier, wherein the carrier is a plurality of particles.

30. (previously presented) The immunogenic composition of claim 1, wherein the immunogenic composition is suitable for delivery in a prime boost format.

31. (previously presented) An intradermal delivery device comprising the immunogenic composition of claim 1.

32. - 35. (canceled)

36. (previously presented) The immunogenic composition of claim 29, wherein the carrier is gold beads.

37. (previously presented) The immunogenic composition of claim 17, wherein the polynucleotide encoding the fusion protein and the polynucleotide encoding Tat are contained on a single vector and are under the control of separate promoters.

38. (previously presented) The immunogenic composition of claim 1, wherein the sequence encoding HIV Gag encodes both p17 and p24.

39. (previously presented) The immunogenic composition of claim 1, wherein the sequence encoding RT comprises a mutation that substantially inactivates reverse transcriptase activity in the encoded RT.

40. (previously presented) The immunogenic composition of claim 1, wherein the sequence encoding Nef encodes a truncated Nef lacking N-terminal amino acids 1-65

41. (previously presented) An immunogenic composition comprising:

(a) a nucleic acid molecule encoding a fusion protein comprising in the 5' to 3' direction RT – Nef – Gag –gp120; wherein the sequences encoding gp120, RT and Gag are codon optimized; wherein the encoded RT comprises a mutation that substantially inactivates reverse transcriptase activity; wherein the encoded Nef is a truncated Nef lacking N-terminal amino acids 1-65; wherein the encoded Gag comprises p17 and p24; and wherein the encoded gp120 lacks a functional secretion signal; and

(b) at least one pharmaceutically acceptable excipient, diluent, or carrier.

42. (previously presented) The immunogenic composition of claim 41, further comprising a polynucleotide encoding Tat.

43. (previously presented) The immunogenic composition of claim 14, further comprising a polynucleotide encoding Tat.

44. (previously presented) The immunogenic composition of claim 14, wherein the polynucleotide sequence encoding the fusion protein is in a vector.

45. (previously presented) The immunogenic composition of claim 41, wherein the polynucleotide sequence encoding the fusion protein is in a vector.

46. (previously presented) The immunogenic composition of claim 14, wherein the vector is a replication defective adenovirus vector.

47. (currently amended) The immunogenic composition of claim 14, wherein the vector is a replication defective adenovirus vector.

48. (previously presented) The immunogenic composition of claim 41, further comprising an adjuvant.